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Oh What a Tangled Web We Weave: Mind Mapping as Creative Spark to Optimize Transactional Clinic Assignments

61 N.Y.L. SCH. L. REV. 119 (2016–2017)

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I. INTRODUCTION

Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really do it, they just saw something. It seemed obvious to them after a while.¹

—Steve Jobs

Client assignments are among the most important factors that affect a student's experience in a live-client transactional law clinic. Student "attorneys" are presented with meaningful opportunities to engage with and learn from clients by applying their still-developing professional bona fides to real people with legal challenges. As a result, decisions regarding allocation and distribution of client matters are among the most important pedagogical decisions transactional clinical faculty make. By taking into account the unique and sometimes complex individual characteristics of each client and student, clinical faculty can optimize these allocations and maximize achievement of important objectives. Mind mapping can help clinical faculty untangle this complicated web of information.

Mind mapping is an analytical and organizational tool characterized by interconnected branches of ideas and topics, creating a radiating network of related concepts. For generations, it has been used by creative minds to visualize and analyze complex systems of information. Recent improvements in technology have married the time-tested structure of mind mapping with the flexibility of tactile user interfaces common to modern electronic devices. Using these applications, creative instincts can be unleashed to collect, organize, and analyze complex and frequently changing information, resulting in better, more intentional matchings to optimally serve the needs of clinic students and clients.

In Part II, I explore the importance of well-matched client assignments in achieving desired objectives within live-client transactional law clinics. I recount my experience designing an entrepreneurship clinic that satisfies those objectives in light of recent literature regarding common objectives in transactional clinic design. In Part III, I establish how mind mapping fosters the creative analysis of complex information. I provide a basic primer on mind mapping, describe its characteristics vis-à-vis other mapping techniques, and highlight how recent advances in technology create new opportunities for its application to clinical teaching and administration. In Part IV, I connect the topics of Parts II and III by detailing my experiences applying mind mapping to assignments in a transactional law clinic. After briefly highlighting the details of my early experiences with mind mapping software, I explore in detail how digital mind mapping simplifies the collection, organization, and analysis of information about client matters to enable better decisionmaking about client matter assignments. I conclude with a summary of key successes and self-critiques, avenues for future improvement, and opportunities for expansion of mind mapping into other areas of clinical teaching.

1. Gary Wolf, *Steve Jobs: The Next Insanely Great Thing*, WIREd (Feb. 1, 1996, 12:00 PM), <http://www.wired.com/1996/02/jobs-2/>.

II. THE IMPORTANCE OF CLIENT ASSIGNMENTS IN ACHIEVING CLINIC OBJECTIVES

A. Practitioner-Turned-Clinician: Building a Transactional Law Clinic

I was hired as a clinical faculty member at the University of Nebraska College of Law in February 2012 with the expectation of creating the school's first transactional law clinic. The Weibling Entrepreneurship Clinic ("E-Clinic") was first offered in the January 2013 spring semester.² I spent much of the preparatory year researching similar programs at other schools, building partnerships with local and regional stakeholders in budding entrepreneurial ecosystems throughout Nebraska, and establishing the initial footings for this new teaching law firm.

I quickly realized there is no universal design for transactional clinics, reflecting a widespread recognition that transactional practice is an exceptionally broad construct. Transactional lawyers pepper the entire landscape of private practice, in firms large and small, in markets ranging from local to international, handling matters complex and perfunctory.³ Most will need a basic understanding of legal issues relating to corporations and other business entities, taxation, contracts, employment, real estate, intellectual property, and estate planning, as well as professional ethics.⁴ Given this, aspiring transactional lawyers should develop a diverse toolkit of knowledge, skills, and experiences.

With this context in mind, I organized the E-Clinic as a boutique law firm handling a diverse set of legal issues for early stage startup companies and small businesses. This diversity would enable students to see the multifaceted and interconnected nature of transactional practice. By experiencing this professional path in a clinical setting, students could open a meaningful self-dialogue about whether, and to what extent, the transactional lawyer persona was a good fit, personally and professionally. I also designed the clinic to mirror the day-to-day of my practice experience: intense, fast-paced, and varied in its required competencies. Although a full recitation of my clinic design choices⁵ goes beyond the scope of this

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2. *Weibling Entrepreneurship Clinic*, NEB. C.L., <http://law.unl.edu/eclinic/> (last visited Oct. 30, 2016). The clinic was rebranded from Entrepreneurship Legal Clinic in 2016 to recognize the generous contributions of alumnus, Dennis Weibling.
 3. Lisa Penland, *What a Transactional Lawyer Needs to Know: Identifying and Implementing Competencies for Transactional Lawyers*, 5 J. ASS'N LEGAL WRITING DIRECTORS 118, 122 (2008) ("While half of all lawyers will go on to become transactional lawyers, they will engage in widely varied kinds of transactional practices as well as in many different office sizes, locations, and settings. A transactional attorney may focus on real estate transfers, property management, corporate issues, or deals and buyouts. A transactional attorney may work in a large firm where the deals are complex or may practice in a small town or city as a general practitioner.").
 4. *Id.* at 127–28. As Penland highlights, this is particularly true for general practitioners or transactional attorneys in smaller markets where legal services needs do not typically permit specialization. *Id.*
 5. The E-Clinic is a six credit, one semester class, with a maximum enrollment of eight students in their third year of law school. While in the E-Clinic, students are required to perform at least 240 hours of work, inclusive of time spent working on client matters, participating in and preparing for classroom training sessions and weekly staff meetings, preparing and delivering an outreach presentation to a relevant University or community organization, and participating in relevant networking and engagement opportunities. After a few semesters of experience, I became more explicit with regard to

article, one of my primary goals in the clinic is to exact as much control over complex and changing circumstances as possible.⁶ In the next section, I detail my primary pedagogical objectives in directing the E-Clinic.

B. Leveraging the Flexibility of Transactional Clinic Design to Achieve Various Pedagogical Objectives

One of the characteristic challenges of clinic design is to balance service to clients with pedagogical goals of student learning.⁷ In this section, I highlight the various objectives I have for E-Clinic students. I frame my priorities by first discussing recent scholarly writings about learning objectives in transactional clinics.

It is well documented that there is a significant gap between traditional law school curricula and the development of transactional law expertise, even though half of all lawyers will practice some form of transactional law.⁸ The MacCrate Report, issued by the American Bar Association in 1992, called for law schools to provide a set of baseline skills and values necessary for law practitioners.⁹ Various authors expanded on the report's findings, writing about skills and competencies law students should develop during law school to prepare for careers as practitioners. Legal scholars such as Lisa Penland and Praveen Kosuri have assumed the mantle of outlining skills and competencies relevant to students who intend to engage in transactional practice.¹⁰

Penland writes about competencies for the “deal lawyer,” a lawyer who specializes in client transactions, typically in larger legal markets, and for the “general practitioner,” a lawyer who balances transactional work with other traditional types

the expected allocation of student-attorney time among these activities; in particular, I require that nearly two-thirds of each student's time should be spent on client work. I also require E-Clinic students to track their time for clinic activities, ensuring that they experience time being quantified, categorized, and reported, as is the norm in private practice. In addition to this learning outcome, the resulting data enable me to better monitor student activities and analyze aggregate trends in order to make adjustments to the clinic experience.

6. And, as I describe *infra* Part II.D, my own failure to exact such control is what provided the impetus to try new things and innovate.
7. Praveen Kosuri, “Impact” in 3D—Maximizing Impact Through Transactional Clinics, 18 CLINICAL L. REV. 1, 18 (2011); see Douglas A. Blaze, *Déjà Vu All Over Again: Reflections on Fifty Years of Clinical Education*, 64 TENN. L. REV. 939, 950 (1997) (“The proper balance between meeting educational objectives and serving clients has been discussed since the earliest days of clinical education.”).
8. *E.g.*, Penland, *supra* note 3, at 118.
9. TASK FORCE ON LAW SCH. & THE PROFESSION, AM. BAR ASS'N, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT—AN EDUCATIONAL CONTINUUM 327 (1992). The chair of the task force was Robert MacCrate. *Id.* at v.
10. See Praveen Kosuri, *Beyond Gilson: The Art of Business Lawyering*, 19 LEWIS & CLARK L. REV. 463, 481–93 (2015); Penland, *supra* note 3, at 118, 122–28; see also Ronald J. Gilson, *Value Creation by Business Lawyers: Legal Skills and Asset Pricing*, 94 YALE L.J. 239, 303–06 (1984); Karl S. Okamoto, *Reputation and the Value of Lawyers*, 74 OR. L. REV. 15, 15–20 (1995); Steven L. Schwarcz, *Explaining the Value of Transactional Lawyering*, 12 STAN. J.L. BUS. & FIN. 486, 495–506 (2007).

of legal work.¹¹ She asserts that both types of lawyers should be able to do the following: “understand business associations, advise about business structures, and draft documents related to business associations”; “investigate facts and research the law (with emphasis on due diligence)”; “draft and negotiate contracts”; and “identify and address the ethical implications of transactional practice.”¹²

Kosuri expands on Penland’s writings, as well as Ronald Gilson’s earlier seminal writing on the subject,¹³ by presenting his views about the key skills of great business lawyers.¹⁴ He divides these skills hierarchically into foundational skills, transitional skills, and optimal skills.¹⁵ Kosuri’s list of foundational skills largely tracks the competencies Penland identified.¹⁶ His list of optimal skills consists of “those lawyering skills that set the great business lawyer apart from the good and are best learned and practiced in clinical settings.”¹⁷ They include: (i) understanding business, (ii) understanding people, (iii) creative problem solving, and (iv) advising clients.¹⁸

I agree with Penland and Kosuri that a transactional clinic offers a prime opportunity to train students on key minimum competency areas—namely Kosuri’s foundational skills and the “deal lawyer” and “general practitioner” competencies Penland identified—particularly given the traditional lack of emphasis on these areas in doctrinal courses. In keeping with this objective, I have six key goals for all E-Clinic students:

1. Understand key substantive areas of practice commonly engaged in by transactional attorneys, primarily business associations, intellectual property, and employment law;
2. Understand how to interpret and draft contracts;
3. Learn how to form a legal entity and draft related documents;
4. Interview and counsel clients of varied backgrounds and circumstances;
5. Work independently as well as collaboratively; and

11. Penland, *supra* note 3, at 122–30.

12. *Id.* at 124.

13. Gilson, *supra* note 10, at 255 (arguing that business lawyers add value by serving as “transaction cost engineers,” reducing barriers and inefficiencies in transactions to maximize the overall value of the transaction).

14. Kosuri, *supra* note 10, at 481–93.

15. *Id.* at 483–93 (identifying transitional skills such as negotiation, structuring, risk management, and transaction cost engineering).

16. *Compare id.* at 483–86 (labeling as “foundational skills” reading and understanding contracts, researching and drafting, financial literacy, and understanding business law), *with* Penland, *supra* note 3, at 124 (identifying essential competencies for junior deal lawyers as understanding business associations, investigating facts and researching the law, drafting and negotiating contracts, and identifying and addressing the ethical implications of transactional practice).

17. Kosuri, *supra* note 10, at 466.

18. *Id.* at 490–93.

6. Identify and address common ethical challenges that arise in transactional practice.

To achieve these goals, I assign a mix of legal matters to students that require learning about relevant areas of substantive law (Goal 1), foster development of certain transactional skills and competencies (Goals 2, 3, and 4), and expose students to circumstances that are common in the practice of transactional law (Goals 5 and 6). Learning by experience is part of clinical legal education's pedagogical DNA, and is the most obvious way clinics differ from traditional law school courses.¹⁹

In addition to these generally applicable goals, I believe it is important for each student to achieve additional competencies based on their particular goals, experiences, and projected career paths. Some students have their paths charted for a particular career, while others are still seeking a broad swath of experiences to help point their compasses. Some have years of work experience prior to law school, while others are attending law school immediately following their undergraduate education. Given the many variables in student circumstances, my view is that learning goals beyond the minimum competencies described above can and should vary on a student-by-student basis. These individualized goals might be met by assigning advanced projects in a particular substantive area of practice that is of interest to the student, providing more basic projects to lay a foundation for understanding an issue area, targeting experiences to shore up certain skill areas that need further development, or exposing a student to clients from a particular geographic area, such as a rural or urban setting.

For most of these learning objectives, whether general or individually applied, student achievement is directly affected by the clients and matters assigned.²⁰ Students will likely have frequent interactions with their clients, providing a human perspective on the practice of law—in some cases, for the first time. Beyond the achievement of learning goals, these interactions can lead to other positive or negative results. For students who experience an engaged, committed, and appreciative client, the interactions can lead to a renewed sense of excitement about the practice of law and their future prospects of joining the profession; on the contrary, such interactions can paint students an unduly rosy picture of the practice of law, particularly when the projects are not representative of what a private firm would typically handle. For students who experience a detached, uninterested, unappreciative client, the interactions can raise doubts about whether the student entered the right professional

19. See, e.g., Frank S. Bloch, *The Andragogical Basis of Clinical Legal Education*, 35 VAND. L. REV. 321, 322–23, 331 (1982) (“[T]he more active the learner’s role in the process, the more he is probably learning.” *Id.* at 331 (quoting MALCOLM S. KNOWLES, *THE MODERN PRACTICE OF ADULT EDUCATION* 45 (1970))).

20. Of course, there are also a number of objectives that are not related to a student’s particular clients. For example, one such objective is that students learn the basics of law firm management and operations, including an understanding of document management and cloud computing, billing practices and timekeeping techniques, and intra-office communication with supervisors, staff, and attorney colleagues. To achieve these objectives, I train the students on the basics during early semester seminars and provide them with opportunities to perform sample exercises with the expectation of direct feedback. The students then test their capabilities in a real-world environment and are provided formal and informal feedback on a frequent basis.

field of study, yet such interactions can also provide students a more realistic picture of common private practice clients, and an opportunity to grapple with challenges associated with such clients. Of course, a typical client pool will demonstrate characteristics on both ends of this spectrum, and both types of clients provide meaningful opportunities for student learning.

Although clinic students frequently have responsibilities beyond those directly related to client work—such as participation in a concurrent seminar or engagement in community outreach—a typical student's experience in a class such as the E-Clinic is dominated by interactions with clients and the legal work performed for them. As a result, decisions regarding assignment of client matters (which matters to assign to which student(s) and how many matters to assign) have an immense impact on each student's experience.

C. Client Objectives Matter Too

Students are not a transactional clinic's only stakeholders. Transactional clinics that provide direct representation to clients must also, by definition, work to satisfy client goals.²¹ In addition to the fundamental precept that an attorney has a fiduciary duty to zealously pursue her client's best interests, a transactional clinic that relies on the engagement of private clients must work to develop a strong reputation for quality work and representation, or else the well of future prospective clients may run dry.

Clinic clients should receive effective, timely, and competent representation on matters a transactional clinic undertakes. However, depending on a clinic's design, success will be driven or at least highly influenced by the students assigned to the matter—supervision of a licensed attorney notwithstanding. Like lawyers, law students are not mere commodities, and the legal work one student generates will be unique and different from any other:

- Some students have years of professional experience; others have held little more than a short-term internship.
- Some students have taken specific coursework geared toward a particular professional or educational path (intellectual property or international law, for example); others have taken a general mix of courses in preparation for the bar exam or to sample various areas of potential interest.

21. Client objectives will vary depending on the specific legal needs and expectations presented. In a transactional clinic, primary objectives may include forming a legal entity, negotiating a vesting agreement among founders, preparing a form customer contract, or filing a trademark application with the U.S. Patent and Trademark Office. There may also be objectives that are generally applicable to all clients, such as providing prompt, professional communication, meeting client time frames, or demonstrating to the client the value of legal work.

- Some students will have a good command of the concepts taught in their classes; others will find they have little to show from their classes aside from a used textbook and an exam outline.²²
- Some students will be pursuing clinic work with gusto in order to maximize their experiential opportunity; others will be looking for the quickest route to an average grade.

As a result of these variations, students will have different capacities for performing quality legal work. Successful client outcomes may also depend on students' knowledge and experience relevant to their assigned clients' respective needs. Transactional clinic supervisors must be mindful of these variations in satisfying the fiduciary obligations that they owe clinic clients.

In the private market, a client may work with a lawyer of her choosing.²³ Attorneys and clients connect in various ways, including client development efforts by attorneys such as local presentations and advertising, personal referrals from former clients or other attorneys, and even cold calls. Following a connection, the attorney and client may have one or more consultations before the client decides whether the attorney would make a good fit for representation. In deciding, a client might consider a number of tangible factors, such as the attorney's substantive legal expertise, the anticipated time frame for the matter, the attorney's availability, and the anticipated cost of legal services. A client might also consider intangible factors, such as the attorney's ability to communicate or relate to the client's circumstances, the attorney's personality or perceived trustworthiness, the attorney's (or firm's) reputation, or even the quality of the attorney's handshake. When a choice is not successful, clients may terminate the relationship and seek alternative legal counsel.²⁴

In a transactional clinic, however, student attorneys and clients do not typically make these decisions, clinical faculty do. There are a number of important reasons for this. Clinics are typically accelerated experiences, lasting only one academic semester or year. Most students do not have sufficient time to "court" and evaluate clients, as their commitment to the clinic is typically no more than "part-time" and is balanced with other academic, extracurricular, or outside employment responsibilities. Further, even if students had sufficient time, most students do not have an experienced framework for making effective decisions. Similarly, clients would have a difficult time evaluating clinic students and deciding whom to "hire," particularly given the limited experience and exposure most students have had to direct client

22. Anecdotally, I find that grades from a prior course are not necessarily correlated with whether a student has good command of the relevant concepts.

23. Of course, many circumstances affect this reality, particularly when a civil or criminal defendant does not have the financial wherewithal to hire an attorney and must accept charitable or publicly available assistance, or when there are limited attorneys with the necessary competencies in a client's community. However, there are fewer corollary circumstances that are applicable in transactional work, as much of the legal work is elective and can (technically) be performed by nonlawyers (filing paperwork to form an entity, applying for relevant business licenses, and preparing contracts).

24. Attorneys may even fire their clients, subject to the applicable rules of professional responsibility.

legal work.²⁵ As a result, clinical faculty, rather than students and clients, are best able to make decisions that put those actors in the optimal position to achieve their respective objectives.²⁶

D. Pairing Students and Clients to Achieve Objectives: A Web of Infinite Opportunity

Achieving numerous student and client objectives provides an immense challenge to transactional clinical faculty. Each semester, I take a variety of clients from an ever-changing pool, match them with a new group of students, and through intentional choices of clinic design or situational decisionmaking, seek to make connections that lead to the best possible outcomes. The complexity of this organizational and managerial challenge should not be understated.

One of the biggest personal challenges I encountered in building the E-Clinic was managing what was, in effect, a professional promotion from an associate in an established full-service law firm to managing partner of a newly formed, teaching-oriented, boutique firm. While there was a dramatic reduction in administrative burden (and stress) from no longer billing clients for work performed, there was a similarly dramatic increase from selecting and supervising the client work of eight students. The sheer quantity of hours that eight students spend on client work in a single semester is staggering.²⁷ Even with years in practice witnessing and learning from senior attorneys about their nuanced and varied styles of supervision, I was underprepared for the responsibility that comes with taking ownership of the workload of so many others. This responsibility has heightened importance since these students are, in many cases, “cutting their teeth” as practicing lawyers and setting a course for their professional and personal futures.²⁸

In this new managerial role, one challenge I faced was equitably allocating client work among student participants. Although I initially attempted to allocate client workloads evenly among student-attorney pairs, a number of assumptions I made about the assigned clients turned out to be incorrect. For example, some clients were not as responsive as others in arranging an intake meeting and signing an engagement letter, resulting in a shorter window of time for students to conduct legal work. Some clients came in with complex legal needs (multi-founder negotiations, for example),

25. Frankly, such a process could unjustly benefit those students who already have legal or other experiences that give them a leg up on their less seasoned colleagues. Given the educational mission of live-client clinics, it is important that each student be provided with a meaningful, roughly equivalent opportunity to learn and succeed.

26. Perhaps it could be a positive learning opportunity for students to take on this responsibility and, if a poor choice is made, grapple with the consequences. However, given the accelerated nature of a clinic experience, there is significant risk that poor decisionmaking on the front end will hinder the student's ability to achieve important educational objectives.

27. In a semester of the E-Clinic, students will spend, collectively, at least 1,248 hours on client work.

28. See Anna E. Carpenter, *The Project Model of Clinical Education: Eight Principles to Maximize Student Learning and Social Justice Impact*, 20 CLINICAL L. REV. 39, 64 (2013) (“A clinic is the one place in the law school where students actually engage in the practice of law and feel, for the first time, the substance, weight, and contours of the lawyer's professional role.”).

while others were more basic (single-member LLC formation, for example), and our intake procedures did not provide sufficient information to assess client circumstances. This resulted in imbalanced workloads for the students, and it was hard to make midstream adjustments as new information was acquired.

Without a process for identifying when to change course, there were missed opportunities to connect clients with interested student attorneys. Since those early semesters, many of the iterative changes I have made to E-Clinic procedures relate to (i) improving effective supervision and management of student-attorney workload, (ii) learning more about each student attorney's personal and professional goals, and (iii) identifying legal needs of Nebraska startup business clients that can be matched to desirable learning outcomes. But for this information to be useful, I needed a tool to help me organize, analyze, and evaluate it. For me, that tool was mind mapping.

III. MIND MAPPING: OLD IDEA, NEW APPLICATION

The human brain does not think in toolbars and menu lists; it thinks organically like all natural forms, like the human body's circulatory and nervous system, or the branches of a tree and veins in a leaf. That's how the brain thinks. To think well, it needs the tool that reflects that natural organic flow. The Mind Map is that tool.²⁹

A. *The "Swiss army knife of the brain"*³⁰

Mind mapping is an analytical and organizational tool characterized by visual representations of ordered information.³¹ Typically, mind maps take a central idea and surround it with connected branches and sub-branches of associated topics, creating a radiating network of related ideas and concepts.³² It has been referred to as the "Swiss army knife of the brain," and its design has been described as mimicking the way the brain functions.³³

Mind mapping has been used for centuries by some of humanity's greatest thinkers, artists, and inventors. Exhibit 1 is a mind map found in a notebook used by physicist and mathematician Isaac Newton in the 1660s.³⁴ Exhibit 2 is a map that was prepared

29. TONY BUZAN WITH CHRIS GRIFFITHS, *MIND MAPS FOR BUSINESS 2* (James Harrison ed., 2d ed. 2014).

30. TONY BUZAN, *THE ULTIMATE BOOK OF MIND MAPS 6* (Susanna Abbott ed., 2005).

31. *Id.* at 6–7.

32. BUZAN WITH GRIFFITHS, *supra* note 29, at 4–5; Martin Davies, *Concept Mapping, Mind Mapping and Argument Mapping: What Are the Differences and Do They Matter?*, 62 *HIGHER EDUC.* 279, 281 (2011).

33. BUZAN, *supra* note 30, at 6; see S. O. Adodo, *Effect of Mind-Mapping as a Self-Regulated Learning Strategy on Students' Achievement in Basic Science and Technology*, *MEDITERRANEAN J. Soc. Sci.*, July 2013, no. 6, at 163, 164.

34. *Trinity College Notebook*, CAMBRIDGE U. LIBR., <http://cudl.lib.cam.ac.uk/view/MS-ADD-03996/5> (last visited Oct. 30, 2016).

by English writer and preacher John Bunyan in 1691.³⁵ Mind maps have also been attributed to Leonardo da Vinci, Thomas Edison, Charles Darwin, Albert Einstein, Michelangelo, Winston Churchill, Thomas Jefferson, Marie Curie, and Pablo Picasso.³⁶

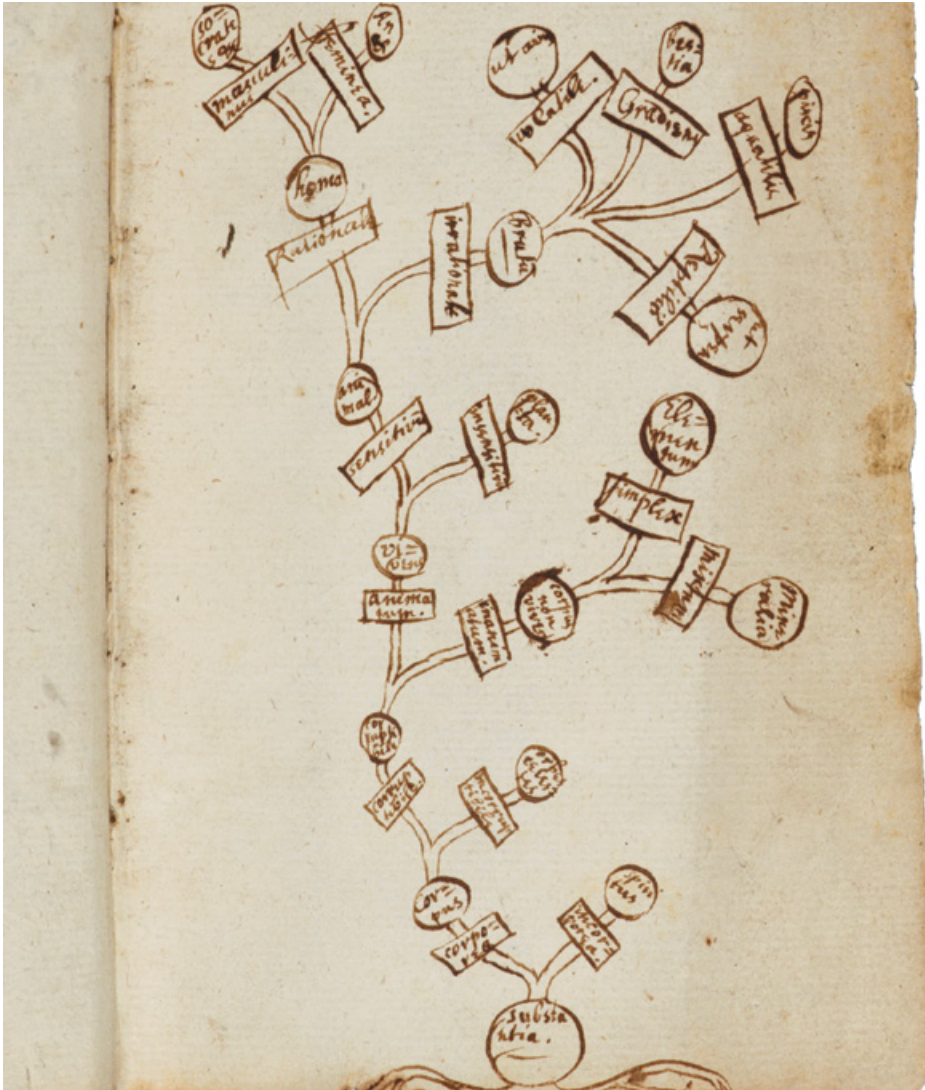


Exhibit 1: Isaac Newton while attending Trinity College (circa 1661–1665); reproduced by kind permission of the Syndics of Cambridge University Library

35. Image property of ©Trustees of the British Museum; used with permission under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) license. Image available at http://www.britishmuseum.org/research/collection_online/collection_object_details.aspx?assetId=250622001&objectId=1540800&partId=1.

36. BUZAN, *supra* note 30, at 10; Dorothy Garlough, *Mind Mapping for a Creative Breakthrough*, RDH, Nov. 2013, at 22.

OH WHAT A TANGLED WEB WE WEAVE

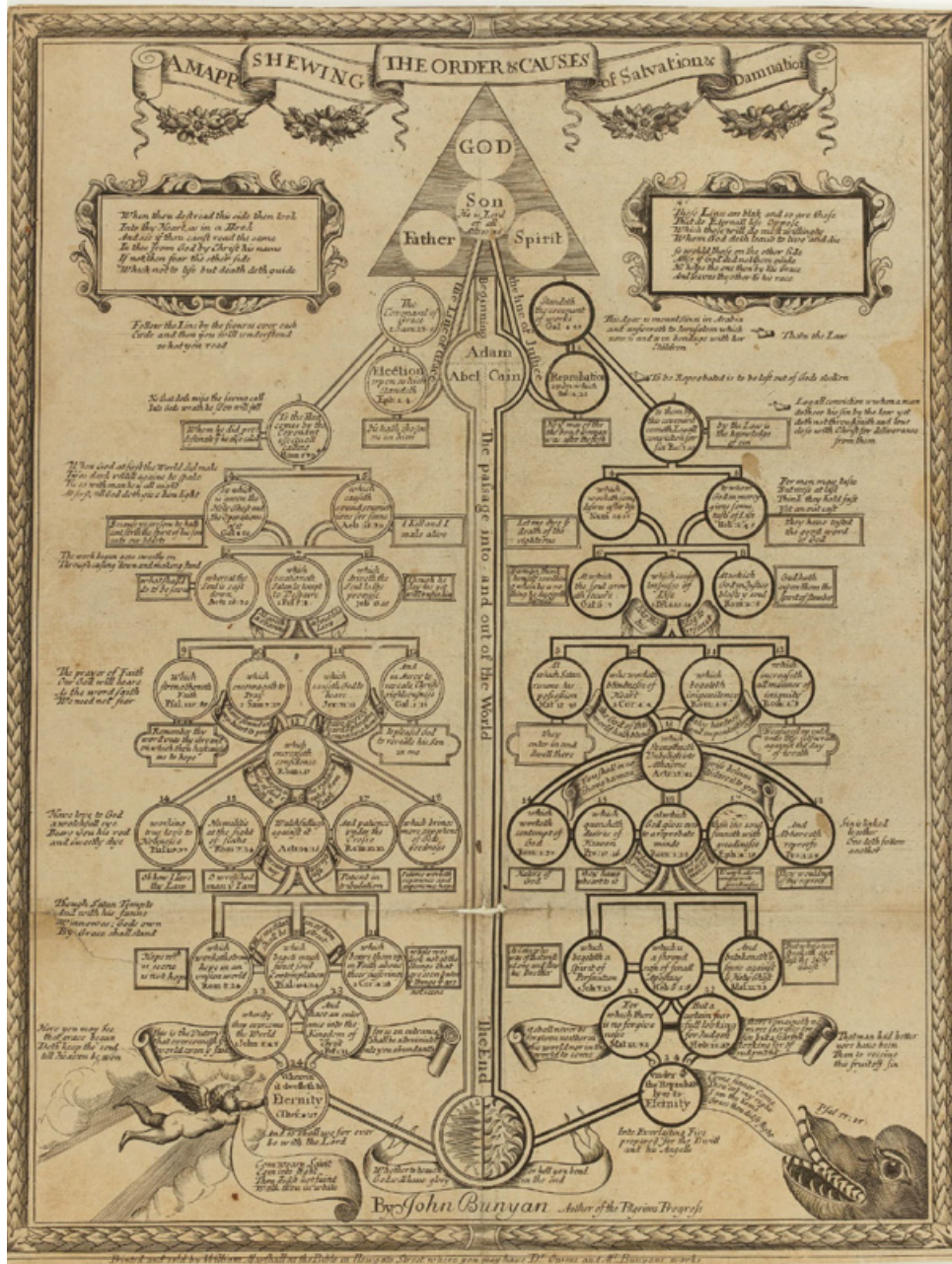


Exhibit 2: John Bunyan's "A Mapp Shewing the Order & Causes of Salvation & Damnation" (1691)

In modern times, mind mapping has many practical applications. It is used in education, including in the law school and business classrooms.³⁷ For example, Professor Stacey Lee uses mind mapping to teach health law to graduate-level business students.³⁸ She creates mind mapped case briefs to discuss in class, zooming in on key components of the case analysis as the class discussion progresses. She presents detailed facts and legal doctrines in context, using the flexibility of the medium to move between different parts of the map.³⁹ Lee requires her students to prepare case briefs using mind mapping.⁴⁰ Mind mapping also helps students create legal research plans,⁴¹ organize writing projects,⁴² and engage in targeted reflection.⁴³

Mind mapping is used in legal practice for various purposes, including trial preparation, legal analysis, depositions, fact investigation, discovery, and project

37. See Cindy Guyer, *Experiential Learning: Context and Connections for Legal Research—A Case Study*, 32 LEGAL REFERENCE SERVICES Q. 161, 178 (2013); Anne Hewitt, *Give Me a Fish or Teach Me to Fish? Developing Law Students' Capacity for Lifelong Learning*, 37 ALTERNATIVE L.J. 259, 263 (2012); Liaquat R. Johnson, *Using Mind Maps to Teach Medical Students*, 48 MED. EDUC. 1124, 1124–25 (2014) (to deliver lecture materials in a medical school setting); Aliza B. Kaplan & Kathleen Darvil, *Think [and Practice] like a Lawyer: Legal Research for the New Millennials*, 8 LEGAL COMM. & RHETORIC 153, 179 (2011) (to create a legal research log); Karen L. Koch, “What Did I Just Do?” *Using Student-Created Concept Maps or Flowcharts to Add a Reflective Visual Component to Legal Research Assignments*, 18 PERSP. 119, 121 (2010) (to facilitate reflection in legal research and writing); Stacey B. Lee, *Using Mind Mapping to Bridge the Gap in Teaching Health Law to Non-Law Students*, 21 ANNALS HEALTH L. 281, 284 (2012) (to brief cases, generate ideas, and represent complex concepts and relationships in a business school class); Robert M. Linz, *Research Analysis and Planning: The Undervalued Skill in Legal Research Instruction*, 34 LEGAL REFERENCE SERVICES Q. 60, 73 (2015); Diane Murley, *Innovative Instructional Methods*, 26 LEGAL REFERENCE SERVICES Q. 171, 182 (2007) (to teach legal research planning, positing that it will increase information transfer to other classes and real-life applications); *Case Study: Professor Jerry Kang, UCLA*, MINDJET, https://schematisation.spaceweb.usherbrooke.ca/cartes_mentales/LinkedDocuments/Mindjet_UCLA_US.pdf (last visited Oct. 30, 2016) (to create lecture notes and presentations in law school classes); see also Rusnani Ab Latif et al., *Concept Mapping as a Teaching Tool on Critical Thinking Skills and Academic Performance of Diploma Nursing Skills*, EDUC. MED., Mar. 2016, at 67 (used as a tool in nursing education); Issam Abi-El-Mona & Fouad Adb-El-Khalick, *The Influence of Mind Mapping on Eighth Graders' Science Achievement*, 108 SCH. SCI. & MATHEMATICS 298, 308 (2008) (study of use in eighth grade science education showing dramatic improvements in conceptual understanding and practical reasoning); John W. Budd, *Mind Maps as Classroom Exercises*, 35 J. ECON. EDUC. 35 (2004) (used in teaching economics); Tony Fisher et al., *Teachers' Knowing How to Use Technology: Exploring a Conceptual Framework for Purposeful Learning Activity*, 23 CURRICULUM J. 307, 312 (2012) (to help teachers explore purposeful learning activity and identify outcomes).

38. Lee, *supra* note 37, at 283–90.

39. *Id.* at 284–85.

40. *Id.* at 287–90.

41. Guyer, *supra* note 37, at 178; Kaplan & Darvil, *supra* note 37, at 179; Koch, *supra* note 37, at 121; Linz, *supra* note 37, at 73; Murley, *supra* note 37, at 172–73, 182.

42. *Case Study: Professor Jerry Kang, UCLA*, *supra* note 37.

43. Koch, *supra* note 37, at 120–21.

management.⁴⁴ It also has business applications.⁴⁵ For example, in the late 1950s, a mind map was prepared for The Walt Disney Company to illustrate the interconnectedness of its various lines of media business with its theme park and merchandising business.⁴⁶

Commentators typically credit the modern reintroduction of mind mapping to English author Tony Buzan.⁴⁷ Through books, consulting, and motivational speeches, Buzan has introduced mind mapping to business and individual audiences as a means of increasing creativity.⁴⁸ Buzan's formulation of mind mapping is not completely free-flowing. It requires adherence to some strict rules, namely: (i) the map starts with an image at the center, which represents the idea, concept, thought, note, theme, or subject of focus; (ii) from the central image flow attached branches in curves, which are labeled with key concepts represented in words or images called "basic ordering ideas"; and (iii) from these branches flow additional levels of concepts relating back to the previous level, with the branches thinning out as concepts get farther from the center.⁴⁹

As Buzan's definition implies, the orientation among objects and ideas denotes connection and association between them. It is not a fluid idea free-for-all; rather, all concepts and ideas flow outward from the creator's central idea in a radial structure.⁵⁰

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44. See Gerlinde Berger-Walliser, Robert C. Bird & Helena Haapio, *Promoting Business Success Through Contract Visualization*, 17 J.L. BUS. & ETHICS 55, 67 (2011) (use of visualization techniques to increase contractual literacy); Michele Leering, *Conceptualizing Reflective Practice for Legal Professionals*, 23 J.L. Soc. POL'Y 83, 93 (2014) (to diagram desired outcomes in the context of reflective law practice); Michael J. Wolf, *Collaborative Technology Improves Access to Justice*, 15 N.Y.U. J. LEGIS. PUB. POL'Y 759, 777 (2012) (used as collaborative space in the context of dispute resolution processes); Daniel E. Harmon, *Apps for Easy Outlining: Outliners Are Useful on both Mobile & Desktop PCs*, LAW. PC, Aug. 15, 2013, at 1, 4 (used as a more visual alternative to basic outlining); see also Zack Anchors, *Mind Mapping Streamlines a Business Negotiation*, WALL ST. J. (Apr. 25, 2013, 9:18 AM), <http://www.wsj.com/articles/SB10001424127887324474004578444574243078936> (to diagram complex information for use by clients); Joseph W. Booth, *The iPad as Law Office Workhorse*, FAM. ADVOC., Summer 2013, at iii, 41 (to organize legal ideas and analyses); George E. Leloudis, *Can't See the Forest for the Trees? Mindjet Can Help*, LAW PRACT., Mar./Apr. 2013, at 20, 20–21; Richard J. Serpe, *Harnessing the Power of Mind Mapping: Tips for Boosting Productivity and Efficiency*, LAW PRAC., Mar./Apr. 2011, at 50, 50–51 (used in law practice as a dashboard for project management).
 45. See Andrew Rosenbaum, *Chart the Course of Your Negotiation*, HARV. MGMT. COMM. LETTER, Aug. 2003, at 4 (describing the use of mind mapping to analyze information, manage projects, structure communications, and facilitate negotiations); see also Jennifer Gerarda Brown, *Creativity and Problem-Solving*, 87 MARQ. L. REV. 697, 702 (2003) (to improve problem solving and enhance creative thinking).
 46. See Robin Cangie, *A Brief History of Mind Mapping: The Walt Disney Connection*, MINDJET: MINDMANAGER (Sept. 10, 2013), <http://blog.mindjet.com/2013/09/brief-history-mind-mapping-walt-disney-connection/>.
 47. See Adodo, *supra* note 33, at 164; Astrid Brinkmann, *Graphical Knowledge Display—Mind Mapping and Concept Mapping as Efficient Tools in Mathematics Education*, 16 MATHEMATICS EDUC. REV. 35, 36 (2003); Davies, *supra* note 32, at 281; Garlough, *supra* note 36, at 22.
 48. For more information about Buzan's current endeavors, visit TONYBUZAN.COM, <http://www.tonybuzan.com> (last visited Oct. 30, 2016).
 49. BUZAN WITH GRIFFITHS, *supra* note 29, at 2–4.
 50. BUZAN, *supra* note 30, at 6 ("You can compare a Mind Map to a map of a city. The centre of your Mind Map is like the centre of the city. It represents your most important idea.").

It is principally an association map, which distinguishes it from other visual mapping approaches.⁵¹ By following these rules, ideas and thoughts are channeled into a hierarchically ordered structure, even if the resulting mind map does not present information in an outline format.

Within the structure created by these limitations, mind mapping presents a robust set of visual tools and variations to convey meaning and identify associations of ideas.⁵² Tools might include shapes, symbols, pictograms, boundaries, lines, arrows, or any other marks.⁵³ Variations among marks are nearly limitless and might include color, shading, size, length, or thickness.⁵⁴ Mind mappers are only limited by the degree of their artistic talents or the functionality of their electronic mind mapping applications.⁵⁵

Buzan's critics raise questions about his frequently hyperbolic claims,⁵⁶ particularly his claim that mind mapping mimics brain functions.⁵⁷ WikIT, a self-styled "mind mapping wiki" that seeks to present details about "all forms of information mapping in a factual, hype-free way,"⁵⁸ compiled a list of articles that Buzan has asserted are evidence of mind mapping's efficacy, and annotated the list with selected summaries and critiques of the underlying research.⁵⁹ In summary, the wiki casts reasonable doubts about a number of these articles.

However, critics do not provide evidence that mind mapping is unhelpful or counterproductive as a tool for analyzing information; rather, they typically question the underlying reasons why mind mapping adds value, and the actual extent of that value.⁶⁰ For example, Joshua Foer, a journalist who engaged in a yearlong quest to

51. Davies, *supra* note 32, at 281. Other approaches are discussed *infra* Part III.B.

52. Davies, *supra* note 32, at 281.

53. *Id.*

54. *Id.*; see BUZAN WITH GRIFFITHS, *supra* note 29, at 2 (providing a visual example).

55. This form of application is explored *infra* Part IV.

56. See JOSHUA FOER, *MOONWALKING WITH EINSTEIN* 205–06 (2011) ("Buzan has a troubling habit of lapsing into pseudoscience and hyperbole . . ." *Id.* at 205).

57. See *Pseudoscience and Mind Mapping*, INFORMATIONTAMERS.COM, http://www.informationtamers.com/WikIT/index.php?title=Pseudoscience_and_mind_mapping (last modified Nov. 3, 2014, 11:35 PM) ("[This site] sets out to show how useful mind mapping, concept mapping and other forms of mapping can be, which work in which situation, and gives real examples of these maps in use, rather than depending on hyperbole and pseudoscientific claims."); see also FOER, *supra* note 56, at 46 (recounting a conversation with Ed Cooke, an English memory grand master, in which Cooke referred to Buzan's theories as "that nonsense about the brain being a muscle," and stated that "[a]nyone who knows the first thing about the respective characteristics of brains and muscles knows how risible that analogy is").

58. See *generally* INFORMATIONTAMERS.COM, <http://www.informationtamers.com/> (last visited Oct. 30, 2016). For specific information about the purported scientific support for mind mapping (as asserted by Buzan), see *Pseudoscience and Mind Mapping*, *supra* note 57, and *Backing up Mindmapping*, INFORMATIONTAMERS.COM, http://www.informationtamers.com/WikIT/index.php?title=Backing_up_mindmapping (last modified Jan. 16, 2013, 1:55 AM).

59. See *Backing up Mindmapping*, *supra* note 58.

60. In fact, WikIT expresses strong support for the concept, noting that mind mapping has many more potential applications than those Buzan highlights. See *id.*

improve his memory by seeking out the tutelage of mental athletes, highlights scientific evidence that mind mapping systems achieve positive outcomes. But he ascribes the benefit more to the mindfulness that is necessary to create the map, rather than the map itself.⁶¹

B. Overview of Knowledge Mapping

Buzan is certainly not alone in formulating a visual mapping strategy for organizing and analyzing information. “Knowledge mapping” is a broader term that is commonly used to encompass different techniques of visually organizing information, including mind mapping, concept mapping, and argument mapping, among others.⁶² There are some noteworthy differences among these techniques, primarily with regard to their structure (linear versus nonlinear), relative level of specificity or abstraction, and purposes for which they are typically used. Martin Davies prepared a summary of the main differences among these types of knowledge maps, found below as Exhibit 3.⁶³

Summary of the differences between knowledge-mapping software

	Purpose	Structure	Level of abstraction	Nodes	Linking devices	Linking words	Language register and “granularity”
Mind maps	Associations between ideas, topics or things	Non-linear, organic, radial	High generality	Pictures, words, diagrams	Lines, line thicknesses, colours, shading	Associative words (“Use” and “colours” and “links”)	Loose
Concept maps	Relations between concepts	Hierarchical, tree-like	Medium generality	Boxes	Arrows	Relational phrases (“in relation to,” “is composed of,” etc.)	Medium
Argument maps	Inferences between claims (conclusions) and support (premises)	Hierarchical, tree-like	Low generality	Boxes and lines	Lines, colours, shading	Inferential linking words (“because,” “not,” “however”)	Tightly constrained

Exhibit 3: Martin Davies’ summary of knowledge maps (2011) (content adapted from original)

Notwithstanding these variations, Davies emphasizes that the overriding goal of all knowledge maps is the same:

61. FOER, *supra* note 56, at 206. Foer recounts a study conducted by researchers at the University of London who gave students a 600-word passage to read, with half the students being trained on how to take notes using mind mapping. When tested one week later, students who used mind maps retained about ten per cent more factual knowledge than students who used conventional note-taking techniques. *Id.*

62. Martin J. Eppler, *A Comparison Between Concept Maps, Mind Maps, Conceptual Diagrams, and Visual Metaphors as Complementary Tools for Knowledge Construction and Sharing*, 5 INFO. VISUALIZATION 202, 204 (2006) (addressing other so-called “node-link” mapping methods).

63. Davies, *supra* note 32, at 289. See Eppler, *supra* note 62, at 203, for a similar chart that compares concept mapping, mind mapping, conceptual diagrams, and visual metaphors.

If students can represent or manipulate a complex set of relationships in a diagram, they are more likely to understand those relationships, remember them, and be able to analyse their component parts. This, in turn, promotes “deep” and not “surface” approaches to learning.⁶⁴

I will unpack this statement, as it encapsulates the key strengths of knowledge mapping tools:

1. *“[R]epresent or manipulate a complex set of relationships”*

Knowledge mapping can help users manage large amounts of information by facilitating the categorization of ideas or topics into a combination of branches and bubbles. Such information can be organized into manageable chunks, which can be reviewed independent of the others. These chunks can provide the user with the “shape” of the subject matter, serving a memory recall function similar to mnemonics.⁶⁵ The shape and structure of the map can provide cues that facilitate easier review, recall, and understanding of the information. In addition, breaking down complex information into bite-size pieces can help the user avoid becoming overwhelmed and forgetting important details.⁶⁶ Davies compares the appeal of knowledge mapping to the preference for providing visual driving maps rather than giving long and detailed verbal directions.⁶⁷

2. *“[M]ore likely to understand those relationships . . . analyse their component parts”*

Knowledge mapping creates opportunities to see different connections and associations among concepts and ideas. Perhaps the most obvious visual difference between a knowledge map and a linear outline is the vast spatial canvas that is employed. With this freedom, users can employ many different visual methods to denote ideas and then relate those ideas to one another. One such method is spatial orientation between and among concepts. Placement of ideas can assist the user in visualizing the structure of knowledge, akin to structures used by the human mind.⁶⁸ Another method is a node-link format, where the direct visual linkages drawn between concepts help the user connect and visually inspect such concepts. Mind mapping, for example, has been shown to help users see connections and make meaningful links among pieces of information, and form new conceptual understandings.⁶⁹

64. Davies, *supra* note 32, at 280.

65. Adodo, *supra* note 33, at 168.

66. *Id.*

67. Davies, *supra* note 32, at 291.

68. Adodo, *supra* note 33, at 163.

69. *Id.* at 165.

In addition to seeing and understanding linkages, the medium provides an artistic method of presentation that inspires creativity.⁷⁰ Because modern mind mapping software applications offer the freedom to move concepts anywhere,⁷¹ users can experiment with new ways of clustering the information, which may result in identification of new connections, new ideas, or even creative breakthroughs.⁷² This creativity is fostered by using mind maps to approach the information from various vantage points. Toggling from big picture views to focused, detailed views can help inspire multiple angles of analysis, and therefore multiple ways of thinking.⁷³ In addition to creativity, the flexible vantage points can dislodge a user from information overload or “monkey mind,” a Buddhist term synonymous with being restless, unsettled, confused, or indecisive.⁷⁴

3. “[R]emember them”

Commenters suggest that user recall of information communicated or analyzed in a mind map is greater than with traditional techniques.⁷⁵ In addition to the visual representation of ideas and information providing the user a more holistic understanding, visual symbols—like logos, maps, arrows, and icons—representing information are more easily recognized and recalled than the words alone.⁷⁶

4. “[P]romotes ‘deep’ and not ‘surface’ . . . learning”

Literature suggests that the type of learning fostered by knowledge mapping may be deeper and less surface-level than traditional methods. Some authors claim that mind mapping mimics synergetic thinking, sometimes called “whole brain” thinking.⁷⁷ By separately encoding information in visual and verbal forms, the two sides of the

70. Buzan takes this view even further, asserting that forcing information into a linear process like traditional note taking can have the effect of stifling creativity: “Linear note-taking, note-making and list-making are in fact some of the best ways in which you can destroy creativity and thinking, because they lock your brain behind ‘prison bars’ that methodically disconnect one thought from another.” BUZAN WITH GRIFFITHS, *supra* note 29, at 6.

71. As discussed *infra* Part III.C.

72. BUZAN WITH GRIFFITHS, *supra* note 29, at 3; Adodo, *supra* note 33, at 164 (“It is an activity that is both analytic and artistic.”).

73. See, e.g., BUZAN WITH GRIFFITHS, *supra* note 29, at 2–3; Lee, *supra* note 37, at 284, 290 (discussing the use of mind maps for in-class discussion of cases, using a skeleton map to provide context and create outlines, and expanding the map’s branches to highlight details as the flow of conversation dictates).

74. See FRANZ METCALF & BJ GALLAGHER, BEING BUDDHA AT WORK 37 (2012); Garlough, *supra* note 36, at 22; see also Eppler, *supra* note 62, at 203 (asserting that mind mapping can be used for “pre-analytic idea jostles”).

75. Adodo, *supra* note 33, at 165 (highlighting studies that show mind maps contribute to longer retention of information); Garlough, *supra* note 36, at 96; see FOER, *supra* note 56, at 206.

76. Adodo, *supra* note 33, at 163.

77. Garlough, *supra* note 36, at 96. For a brief summary of whole-brain thinking, see Janet Weinstein & Linda Morton, *Stuck in a Rut: The Role of Creative Thinking in Problem Solving and Legal Education*, 9 CLINICAL L. REV. 835, 840 (2003).

brain can more effectively understand, retrieve, and process the information.⁷⁸ Authors also note that the mapmaker's efforts in preparing the map itself require active engagement on the part of the learner, which leads to deeper learning.⁷⁹

C. Mind Mapping in the Digital Age

Technology has advanced dramatically since da Vinci's time, and even since the early 1970s when Buzan began widespread promotion of mind mapping. Mind mapping was initially crafted with tangible media (paper, canvas, chalkboards); however, with the processing power and visual capabilities of modern computers, together with the development of more sophisticated applications, users can now create and manipulate mind maps in new and different ways.⁸⁰ Modern mind mapping includes the following characteristics:

1. Easily Modifiable

Electronic mind maps can be modified at will. Unlike traditional mind maps generated on physical media like paper or canvas, which would need to be erased or redrawn to explore alternative clusters of ideas, modern maps provide the user an opportunity to easily tinker with various visual cues, move and mold existing information, and explore alternative linkages and relationships, fostering creativity and leading to new ideas or breakthroughs.

2. Tactile

One attractive feature of creating traditional mind maps using physical media is the tangible experience of holding a writing implement and physically illustrating the map. Today, mind mapping applications are available on tablet computers or other tactile, touchscreen devices, which mimic this tangible connection between user and map.⁸¹ With a stylus or their fingers, users can manipulate the map, adding or moving existing concepts, or broadening, focusing, or relocating the user's vantage point. The creativity and personal ownership that stems from a physical connection to a map may now be realized without the burdens inherent in a physical medium.⁸²

78. Davies, *supra* note 32, at 280 ("Maps allow the separate encoding of information in memory in visual and well as propositional form, a phenomenon called 'conjoint retention' or 'dual coding.'").

79. *Id.*

80. New applications are being developed all the time, but for information about recent products, see *Product Reviews*, MIND MAPPING SOFTWARE BLOG, <http://mindmappingsoftwareblog.com/product-reviews/> (last visited Oct. 30, 2016).

81. iThoughts HD was the first mind mapping program I utilized. Its successor, iThoughts, is native to iOS mobile devices and available for the iPad and iPhone. The tactility of the application was a noteworthy feature, giving me a tangible, physical connection to the map.

82. Tactility may also contribute to improved learning, particularly for people with strong preferences for the kinesthetic sensory modality. Kinesthetic is one sensory modality of the VARK system, which helps individuals identify learning-style characteristics through a standardized questionnaire. VARK is an

3. *Storable; Instantly Available; Sharable*

With the information being stored in data rather than on physical matter, a mind map does not require physical storage space.⁸³ Numerous electronic mind maps, including various iterations of the same mind map, may be created, stored, and organized electronically in a nonintrusive way. These maps may be quickly converted into easily consumable formats like images, PDFs, or text files, and accessed or shared by e-mail, cloud drives, or even social media.

4. *Integrations with Other Media*

Other forms of electronic media, like video, audio, and web links, may be integrated into a mind map for easy access. For example, legal educators who use mind maps as a teaching supplement report that the integration of cases, media articles, and other media add color to the material.⁸⁴

IV. USING MIND MAPPING TO UNTANGLE THE WEB OF INFORMATION TO OPTIMIZE STUDENT/CLIENT ASSIGNMENTS

As discussed in Part II, to maximize achievement of relevant student learning outcomes and client objectives in a transactional clinic, faculty need a robust, thoughtful process to make specific, intentional, individualized pairings of client matters and student attorneys. In this Part IV, I attest that, based on my experiences creating and directing a transactional clinic, mind mapping is well suited for this purpose.

A. *Necessity is the Mother of Innovation*⁸⁵

I was introduced to mind mapping during the year I prepared to teach the E-Clinic. Much of that year can be characterized as constant brainstorming without any immediate ability to implement and test my ideas. I recall frequent feelings of idea slippage, whereby various ideas would enter my mind but because they were not immediately memorialized, they would be replaced by other ideas and quickly forgotten. These feelings of “monkey mind”⁸⁶ were palpable.

Based on a colleague’s recommendation, I acquired a mind mapping tool to sort through it all. iThoughts HD for iPad was the first application I acquired,⁸⁷ and

acronym, which stands for each of the following modalities: visual, aural, read/write, and kinesthetic. For more information about VARK, see VARK, <http://vark-learn.com> (last visited Oct. 30, 2016).

83. The same cannot be said for physical mediums, like large flip charts or whiteboards.

84. *E.g.*, Lee, *supra* note 37, at 283.

85. See PLATO, THE REPUBLIC 35 (Benjamin Jowett trans., Digireads.com Publishing 2008). Although the quote would be more accurately stated “invention,” innovation is a more appropriate header for this paragraph.

86. See *supra* text accompanying note 74.

87. Its most recent version is iThoughts.

during that year I used it as a tool to organize the multitude of ideas and other tasks I needed to address in developing the E-Clinic. Although I had not been exposed to Buzan's writings—or critiques thereof—I quickly adopted mind mapping. Early mind maps helped me organize a master list of tasks and timelines, brainstorm seminar priorities, organize a semester schedule, and outline the content and structure of the E-Clinic's website. Each time I conducted a “brain dump” of ideas into a mind map, I felt relief and mental freedom, as though I had regained possession of previously occupied mental real estate. I also found the micro- and macro-level viewpoints helpful in evaluating both broad issues of clinic design and detailed questions of day-to-day clinic functions.

As the first semester of the E-Clinic came to a close in May 2013, I faced the important challenge of transitioning in-process client matters to a new group of student attorneys. In so doing, it became clear that internal procedure improvements would be needed to effectively manage student-participant workloads. Although my intent was to provide students a chance to start and finish as many matters as possible during the semester, a significant number of clients—over sixty per cent of our original clients—needed to transition to the summer semester for additional work to be completed.⁸⁸ I also faced a lower student enrollment: only five students rather than the anticipated eight. Because of its demonstrated value during the preparatory year, I instinctively turned to mind mapping to help me triage this situation and organize client and student information to make transition decisions. A version of that early mind map with client and student names fictionalized is shown below as Exhibit 4.

The results of this experiment were positive. I organized a map of assignments and student workloads, filled with specific, complex information for quick reference.⁸⁹ An administrative task that previously felt overwhelming became clear and structured.

At this early stage, I was only on the cusp of identifying and articulating the typical characteristics of clients and legal matters that I could leverage to attain my learning objectives. Each subsequent semester, I expanded my use of mind mapping to include additional client and student information to make better initial decisions about client assignments. I began to use mind mapping to manage and modify students' workloads throughout a semester as new information was received or circumstances changed, and to communicate this information internally to student attorneys and staff. The following exhibits are sample mind maps that mimic recent maps used in the E-Clinic. Exhibit 5 was generated using iThoughts HD (for iPad),

88. Although limited scope engagements were employed, my assumptions about how much could be accomplished in a semester proved incorrect. Over time, I have learned supervisory methods that increase the likelihood of accomplishing most matters in a semester.

89. In Part IV.B, I describe how I currently use color, shape, iconography, and association to denote characteristics about client matters. However, in the early stage map in Exhibit 4, I made some initial choices about use of similar constructs, including color for type of legal matter (blue for entity formation, yellow for intellectual property, and orange for others), shape for type of client (rectangles for high-growth startups, ovals for traditional small businesses), numbers reflecting whether a student has primary or secondary responsibility for managing the client relationship, checkered flags for carryover clients, green flags for new clients, red flags for challenging clients (nonresponsive to communications, for example), and downward-pointing arrows for basic matters that would not require as much time to complete.

Exhibit 4: Early mind map used in the E-Clinic (names fictionalized) prepared using iThoughts HD (for iPad)

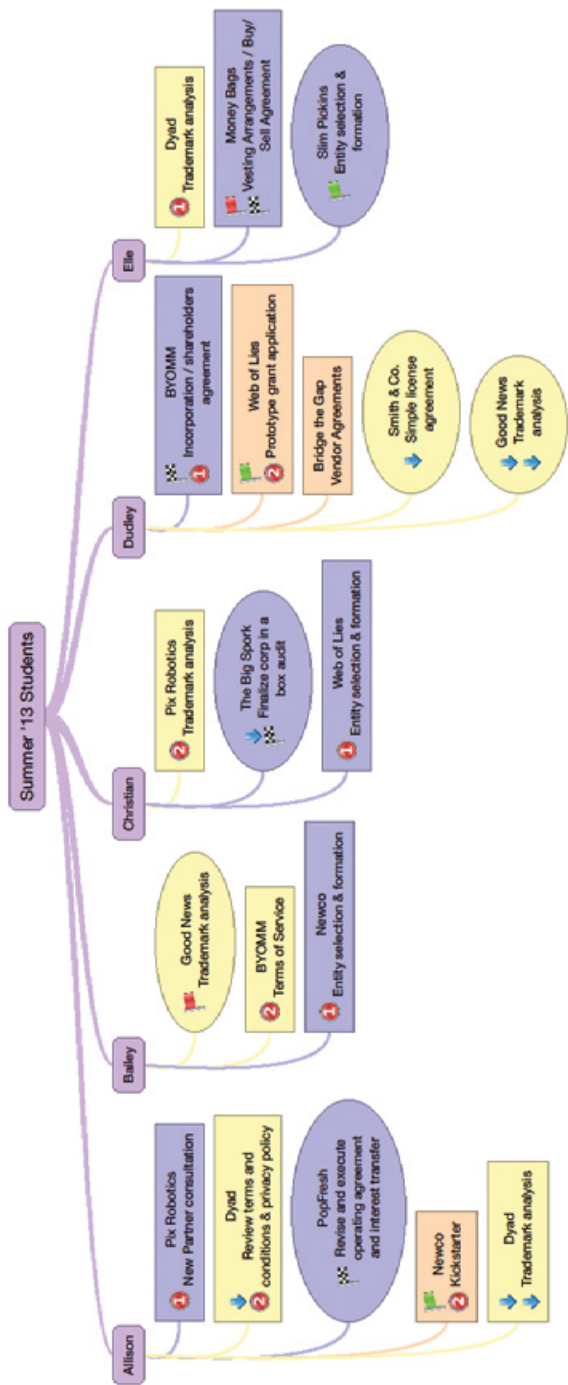
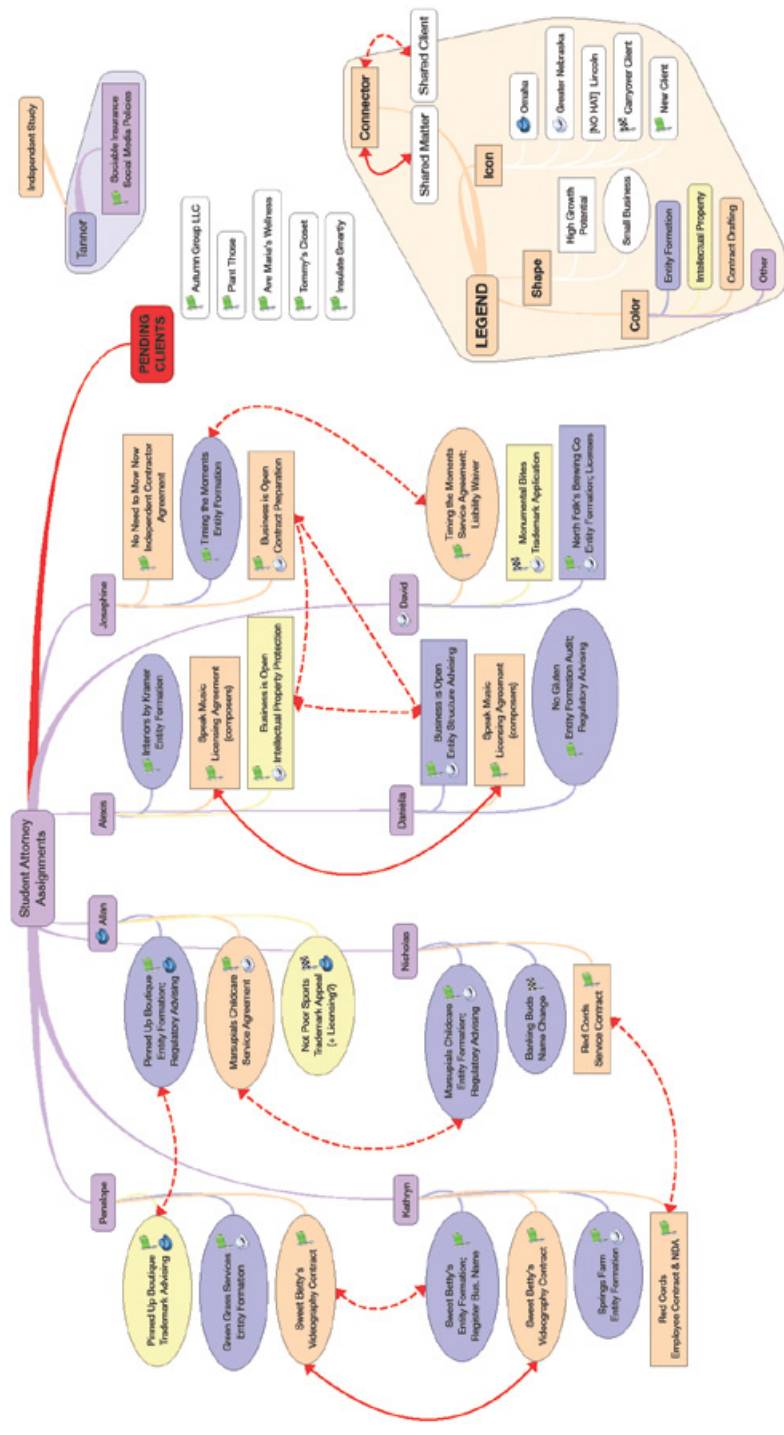


Exhibit 5: Sample E-Clinic mind map prepared using iThoughts HD (for iPad)



and Exhibit 6 using ConceptDraw MINDMAP (for Windows).⁹⁰ These maps provide a visual construct for Part IV.B, where I outline the details of how mind mapping can greatly simplify a complex system of information pertinent to assigning client matters to students.

In these maps, bubbles containing names of each student flow directly from the main organizational construct: the academic semester to which the map relates. Directly adjoining each student's name are separate bubbles for each assigned client matter.⁹¹ Comparing Exhibit 4 with Exhibits 5 and 6 shows the evolution of how I use mind maps with increasing complexity and nuance, which I now describe in more detail.

B. A Primer for Using Mind Mapping in a Transactional Clinic

As discussed, achieving specific desirable objectives in a live-client transactional clinic is integrally related to certain characteristics of a client, a client's legal needs, and the way in which clients and legal matters are assigned to students.⁹² Client and matter characteristics can be identified and made noteworthy in a mind map using visual and relational cues. Of course, there are many more details of a client's profile and legal needs than can be communicated in a mind map. Each client file likely contains, at a minimum, responses to a client intake questionnaire, follow-up correspondence with clinic staff and students, a business plan, and any media attention regarding the client's business. However, narrowing the scope of information on which to focus improves the usability of the mind map by minimizing clutter, improving a clinic director's ability to think creatively and make thoughtful, intentional decisions.⁹³

When I create a mind map, I primarily use visual cues that relate to client, matter, and assignment characteristics that are most directly connected with desired student objectives; however, I also use cues that provide information about client or clinic-oriented objectives. These next sections will describe the primary types of information I include in a mind map and show how I use visual cues to convey such information. The legend in the lower-right-hand corner of the mind maps in Exhibits

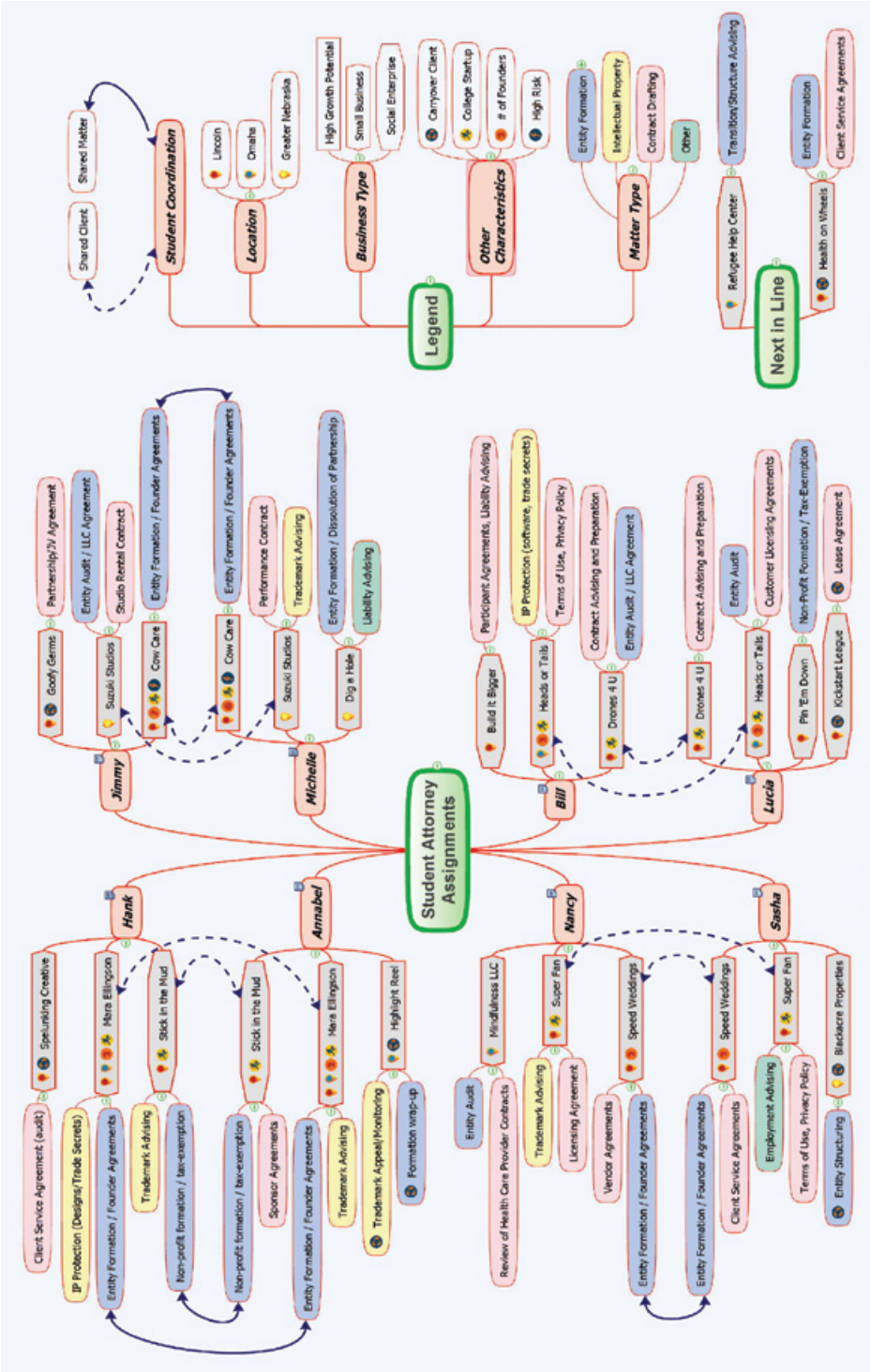
90. In each case, client and student names are fictionalized, but the legal matters set forth therein are representative of a typical allocation of client work at the beginning of a semester.

91. You may observe variations from some of the tenets of Buzan's formulation of mind mapping. For example, Exhibit 5 is structured as hierarchical and vertically oriented, in some ways more like a concept map. The orientation of each map is dictated, in part, by the limitations of the software employed. While ConceptDraw adheres more inflexibly to the radial format, iThoughts HD provides users with some alternative settings that encourage varying structures.

92. I discussed my primary student objectives *supra* Part II. Broadly speaking, they can be divided into learning about relevant areas of substantive law, developing certain transactional skills and competencies, and gaining exposure to common circumstances in the practice of transactional law. *See supra* Part II, pp. 123–24.

93. *See supra* text accompanying notes 68–74.

Exhibit 6: Sample E-Clinic mind map prepared using ConceptDraw MINDMAP (for Windows)



5 and 6 also sets forth each of these cues.⁹⁴ After discussing the content I include in a mind map, I address how electronic mind mapping permits inspection of information in different ways by toggling between different viewpoints.

1. *Legal Matter Characteristics*

The client matter characteristic that is most germane to achieving my desired learning outcomes for student participants is the type of legal work the matter requires. As I summarized in Part II, my foundational goals for students include obtaining a baseline of experiences in substantive issue areas like business associations, intellectual property, and employment law (Goal 1); and developing key skills relevant to transactional practice, notably contract drafting (Goal 2) and formation of legal entities (Goal 3).⁹⁵ In addition, I frequently assign students one or more projects to provide them with opportunities that match their individual goals, particularly where students have subject-matter expertise they wish to further develop.⁹⁶ Client goals may also depend on assigning a student who has expertise in a relatively complex area of the law, such as tax or certain areas of intellectual property.⁹⁷

Among the various visual cues employed in a mind map, perhaps the easiest to distinguish are the colors. As a result, based on the paramount importance of matter characteristics, I use different colors to identify different substantive legal matters. Using color in this manner permits quick review of matters that student attorneys are working on, both individually and collectively.

Entity formation matters are labeled blue. Given that entity formation is foundational to most new businesses, the E-Clinic always has numerous requests to handle these matters. This includes pre-formation matters such as entity choice advising and charter document preparation and filing, as well as post-formation matters such as formation audits and amendments. I also use this category to denote complex founder matters, such as preparation or audit of shareholder agreements, vesting agreements, buy-sell agreements, and other documents relating to the division of equity and allocation of responsibility among founders.⁹⁸ These matters provide

94. The reader should be mindful that each of these design choices is presented as one of an infinite number of possibilities that clinical faculty can use. While these choices have worked well for me, others will find different visual cues more or less helpful, and certainly different client/matter characteristics will be more or less important in other clinics.

95. See *supra* Part II.B, for a broader discussion.

96. See *supra* Part II.B, for a broader discussion.

97. See *supra* Part II.C, for a broader discussion.

98. In practice, most transactional attorneys will need a basic understanding of the technical and practical aspects of entity formation, which are not typically emphasized in Business Associations or similar courses. In the E-Clinic, it is therefore an important educational objective for every student to handle at least one matter relating to entity formation issues. When possible, each clinic student will handle at least one matter that involves assisting a client to choose an appropriate entity form and create such legal entity. This facilitates each student learning more about substantive laws and doctrines relevant to entity formation, and obtaining exposure to the particularized writing styles and conventions used in corporate filings and internal corporate documents.

students with insight into proper structuring of representation when dealing with a new company and multiple founders.⁹⁹ Exposure to this ethical challenge helps students identify and address common ethical implications of transactional practice (Goal 6).¹⁰⁰

Legal matters that involve some form of contract drafting are typically denoted in orange. Transactional attorneys, regardless of practice area expertise or generality, whether in private practice or an in-house counsel role, will likely prepare, review, or otherwise work with contracts. For business clients, contract preparation, review, and counseling are prominent issues affecting many aspects of their operations, whether it be cementing relationships with customers, suppliers, landlords, employees, founders, or funders, or using contractual language to protect their product or idea from misappropriation. For clinic students, contract preparation illustrates the connection between the written word and the intentions of two or more contracting parties, exposing them to the many different writing conventions and techniques that distinguish contract drafting from traditional legal writing and prose more generally.¹⁰¹

Intellectual property protection matters are yellow, and include an interesting mix of very different, and arguably unrelated, matters. Trademark advising and applications are the most common client requests; however, the E-Clinic also provides general counseling on protection of intellectual property through trade secret, copyright, or other contractual methods.¹⁰² These matters are particularly common among startup companies with some sort of invention or other proprietary innovation, or more established startups that have already market-tested their product branding or are otherwise counting on a particular brand strategy.

The purple “other” category acts as a catchall. At present, the most common issues that fall into this category relate to advising on employment law issues or handling regulatory compliance matters. Over time, additional matters may rise to a sufficient level of pedagogical importance for students, or be requested by clients with increased frequency, so that assigning an additional color to one or more additional categories would be useful.

2. *Client Characteristics: Location*

Additional visual cues are employed to convey details about the clients themselves. I have identified a number of client characteristics that are most relevant to student learning and professional goals. This information is presented using various iconography and shapes.

99. See ALICIA ALVAREZ & PAUL R. TREMBLAY, INTRODUCTION TO TRANSACTIONAL LAWYERING PRACTICE 232–39 (2013).

100. See *supra* Part II.B, p. 124.

101. These are skills not traditionally covered in first-year legal writing courses or doctrinal courses on corporate law topics.

102. This category would also include patents and patent applications; however, the E-Clinic does not have the competency to handle such matters. When they arise, we refer those matters to private attorneys or other service providers.

An important client characteristic is location. Obtaining experience by counseling clients of varied backgrounds is one of my primary educational goals (Goal 4). Serving clients throughout the State of Nebraska is a key aspect of the E-Clinic's mission.¹⁰³ Location is also relevant for a number of reasons that affect the student experience. Clients in proximity to the E-Clinic, such as in Lincoln and surrounding communities, can be reasonably expected to meet with student attorneys in person, whether at the E-Clinic or at the client's office, fostering frequent opportunities for a meaningful connection between student attorney and client.¹⁰⁴ Clients farther away from the E-Clinic present interesting communication challenges.¹⁰⁵ Most or all contemporaneous interactions with these clients tend to take place over the phone, although some meetings are held by videoconference if the client's telecommunications infrastructure supports it. Building meaningful relationships in this circumstance presents a challenge for students, one that is germane to most attorneys in Nebraska and surrounding states, where many residents and businesses are not located in or near densely populated areas.¹⁰⁶ These differences in client interactions provide rich opportunities for discussion and reflection, and I explore these challenges with students on a frequent basis. Depending on the makeup of the client pool, I seek to provide each student with at least one client from an urban area and one from a rural area.

Location is also frequently relevant for other individualized objectives I have for my students. In particular, since my students are in their third year, many are at least partially focused on obtaining their first legal job after law school. For students going into private practice, the E-Clinic is a good proving ground to connect with the types of clients they may interact with when they become practicing attorneys. Therefore, I look for meaningful ways to connect each student with clinic clients, as well as attorneys or other service providers, who are located in the community that such student is considering as a place to live and work after graduation—or that at least shares some common characteristics or geography. For example, some of my students want to remain in Lincoln or move to Omaha after graduation, while others plan to move to a smaller community. Since the E-Clinic serves clients in each of these areas, connecting students with at least one client from their desired future community provides an opportunity to practice law in that community and to start building a local reputation as an attorney and counselor.

In Exhibits 5 and 6, I denote the client's location by using colored icons. Specifically, I divide clients from Lincoln, Omaha, and the rural communities of "Greater Nebraska." While there is certainly great variation among the sizes and

103. See *Weibling Entrepreneurship Clinic*, *supra* note 2, for the E-Clinic's mission statement.

104. Located in Lincoln, the E-Clinic tends to draw a substantial majority of its clients from Lincoln and surrounding areas.

105. Lincoln is nearly 420 miles from the state's western border and approximately 200 miles to the state's northern border. One E-Clinic client was located in Crawford, Nebraska, which is over a 420 mile drive from Lincoln.

106. There are many clients who are located within a one to two hour drive of Lincoln, putting students into the interesting (and relevant) quandary about whether the benefits of an in-person meeting outweigh the necessary expenditure of time and funds by the clinic or client to travel for such a meeting.

locations of communities within the “Greater Nebraska” category, it is a helpful visual cue that begins the thought process of analyzing how best to connect that client to one of my students. Some semesters, I may assign the matter to a student with particular interest in that community or a similar community; in other semesters, I may assign it to a student with no experience in rural communities as an educational counterexample to juxtapose differences between the practice of law in urban and rural settings.

3. *Client Characteristics: New or Transitioning*

Another relevant client characteristic that influences achievement of educational goals is whether the client is new or carrying over from a prior semester. The E-Clinic works to precisely define the scope of client engagements (through limited scope engagement agreements) to maximize the chance that client legal needs are addressed in one semester. This approach increases the likelihood that a student will get to see the matter from intake to completion. This approach also limits the “all-you-can-eat” tendencies that some clients exhibit when presented with the opportunity for free legal services. Even with clear project definition, timing for completion is highly dependent on factors outside the clinic director’s control, including the pace of progress by the responsible student attorney, the responsiveness of the client, unanticipated events, and the amount of deliberation each party requires to reach finality.¹⁰⁷

Whether a client is new or carrying over from a prior semester defines the nature of the relationship from the beginning of the student’s experience. Initial meetings for new clients are orchestrated by the student attorney and take on special importance as they serve to define the scope and nature of the ongoing relationship. When onboarding a new client, a student attorney explains the details of how the E-Clinic operates, the basics of attorney-client privilege, confidentiality, student practice rules, and the like. In fact, sometimes these initial meetings represent the client’s first experience working with a “real attorney.” With this blank slate, the students have an opportunity to set the course of the ongoing engagement.¹⁰⁸ Following an initial meeting, students are asked to recommend whether the client representation should be undertaken, and if so, what the scope of the representation should be. These interactions mimic circumstances attorneys face in private practice on a routine basis, and provide rich opportunities for student/director discussions and student reflection.

For different reasons, transitioning matters are also helpful pedagogical exercises. Most attorneys can easily recount experiences when a matter suddenly appears on

107. In certain circumstances, it is known in advance that a matter is unlikely to be wrapped up in a single semester. Trademark applications, for example, are frequently addressed in stages, with the first stage involving the trademark research and filing of an application, and the second stage addressing any concerns expressed by the U.S. Patent and Trademark Office trademark examiner. Similarly, founder negotiations frequently take more than one semester if there are many founders to corral or if the founding team is relatively inexperienced or indecisive.

108. This direct involvement in the attorney-client relationship is a major distinguishing feature of clinical education vis-à-vis traditional clerking in a private law firm.

their desks because the responsible attorney is out of the office or otherwise needs to divest control.¹⁰⁹ Being able to review the contents of a file and get up to speed quickly is an important learned skill. My experience suggests that newly minted student attorneys find it unsettling to be handed control of a client's legal work and be less familiar with the matter than the client. Exploring these opportunities in a clinical setting provides students with meaningful exposure to the dynamics involved, particularly in contrast to new client matters.

In the mind maps in Exhibits 5 and 6, I use certain icons to denote whether a matter is new or transitioning. Generally, I do not have enough transitioning matters to provide each student with that experience; however, the visual cues are helpful in ensuring that I do not give a student more than one transitioning matter.¹¹⁰

4. *Client Characteristics: Style of Business*

One additional client characteristic that is relevant to my analysis is the style of the client's business. While every business is unique, it is common for a new for-profit business to be categorized as either a high-growth startup or as a small business. In general, the biggest distinction between these types of companies lies in their respective growth curves and exit strategies. Startups are designed to scale in a dramatic way, usually requiring large amounts of seed and venture capital to fund development and marketing, and eventually resulting in an IPO or acquisition by an established company where early investors can reap returns of several multiples. Small businesses, on the other hand, usually seek to achieve profitability as soon as possible without such investment-oriented capital infusions, choosing instead to keep control in the founders' hands in perpetuity.¹¹¹

In addition, there are many social enterprises that need legal help. Founders of these organizations typically seek to make a positive contribution to society through their enterprise rather than organizing to maximize profits. Issues that social entrepreneurs face can vary dramatically from those faced by for-profits, most notably the need to obtain and maintain tax-exempt status with the Internal Revenue

109. I recall one such moment vividly. During my private practice days, my practice group leader informed me that I would immediately inherit responsibility for handling a pending transaction from a more senior colleague. After I responded with measured concern about whether I had enough time to balance the transaction with other assigned matters, the practice group leader brusquely (but kindly), and with a hint of amusement, reacted with, "You have enough time," as he quickly pivoted out of my doorway. It turned out to be a significant professional moment for me, which involved meaningful stress but ultimately led to immense professional growth and development.

110. I do this primarily to maximize the number of students who can have the experience of managing a transitional matter. A secondary, but related reason is to maximize the number of new clients a student takes on (that is, seeking to avoid transitioning matters crowding out new matters in a student's portfolio) since I find the new matters pedagogically richer and more valuable experiences, generally.

111. See, e.g., Steve Blank, *The 6 Types of Startups*, WALL ST. J.: ACCELERATORS (June 24, 2013, 12:01 PM), <http://blogs.wsj.com/accelerators/2013/06/24/steve-blank-the-6-types-of-startups-2/>.

Service.¹¹² Counseling each of these types of clients provides students an opportunity to further satisfy my goal that they work with clients of varied backgrounds (Goal 4).

Transactional clinics make different choices about the makeup of their client pool. The E-Clinic works with startups, small businesses, and social entrepreneurs for two reasons: (i) each provides different educational opportunities for clinic students, and (ii) future transactional attorneys benefit from understanding the impact these structural differences have on legal and business advice given to these clients. Entity formation is a classic example: In an oversimplified analysis, companies that anticipate raising capital from venture capital firms are frequently advised to form a C Corporation in Delaware, whereas companies without such ambitions may be better served by forming an LLC in the company's domicile.¹¹³ Social entrepreneurs, by contrast, form an entity under a completely different statute and face exacting federal requirements to ensure tax-exempt status is granted.

In Exhibits 5 and 6, I use different shapes for the various matter bubbles, which denote the business model of the client. Of all the visual cues discussed, I find that shape is the least obvious in my own field of vision. Using shape to denote business type reflects my prioritization of this characteristic as less important than the others I have discussed.

5. *Assignment Characteristics: Relationships & Connections*

It is also worthwhile to be intentional about the ways in which clients and matters are assigned. Clinics make a variety of choices about student assignments, including whether to assign matters to student teams or individually. From an administrative perspective, the simplest approach for most transactional legal matters would be to assign each student a few clients and entrust any legal work arising from those clients to that student.¹¹⁴ However, one of my primary goals for client assignments is to maximize the number of different client interactions a student can have while participating in the clinic. Each client is a unique individual or team, providing students with a unique window into the world of professional communication and relationships. This goal is certainly tempered by other goals and practical realities, one of which is that it is harder to build and maintain a positive client relationship if multiple students are vying for the client's attention. Therefore, as with the other educational outcomes I described above, my process for assigning students to clients is multifaceted and geared toward balancing competing interests.

112. Notwithstanding the differences, there are many similarities. For example, many nonprofits seek guidance for preparation of contracts, protection of intellectual property, or understanding legal issues surrounding employees and independent contractors.

113. For more information about entity-formation considerations for startup companies, see, for example, *C Corporation Versus LLC: Which Entity Should Angels Invest in?*, ANGEL RESOURCE INST. (Mar. 18, 2010), <http://www.angelresourceinstitute.org/resource-center/c-corporation-versus-llc-which-entity-should-angels-invest-in.aspx>.

114. Student teams could then be assigned on a case-by-case basis for situations when the legal work is too complex for one student to manage.

I assign each student at least one client exclusively to ensure that the student takes complete ownership of a client matter, including all the burdens, stresses, and emotions that come from being alone in the driver's seat. I also assign each student one or more clients to share with at least one other student. This helps students obtain basic lessons about how to collaborate in a professional environment, and illustrates the benefits and challenges of collaboration. Sometimes collaboration takes the form of a shared project, with the students being jointly responsible for the matter,¹¹⁵ and sometimes it takes the form of a shared client, with students being individually responsible for the matter but tasked with coordinating their efforts.

Dividing out matters in this way helps to satisfy Goal 5 (working independently and with others); however, it introduces complications. The likelihood of client confusion increases because clients must interact with multiple student attorneys on contemporaneous projects. Students also must spend more administrative time coordinating efforts with student colleagues. For illustration, if one student shared matters or common clients with each of three different student colleagues, that student would spend a substantial amount of time arranging meetings and coordinating efforts. Given the limited number of hours my clinic students will spend on clinic work, any added administrative burden necessarily reduces the amount of time students will spend on legal work and counseling clients.

Mind mapping facilitates organizing client matter assignments in a way that maximizes satisfaction of these goals, while minimizing administrative complications. In Exhibits 5 and 6, the main associational cues I employ are two different types of lines (one solid, one dashed) and the placement of associated items in proximity to one another. The lines are meant to show direct connections between clients or client matters that are assigned to multiple students. I use a solid line to denote a shared project and a dashed line to denote a shared client with separately assigned matters. These lines provide the opportunity for quick visual inspection of client- and matter-assignment decisions.

I also place students who share clients and matters in proximity to one another on the map to associate those students' clients and matters. More important, however, is the flexibility of electronic mind mapping to foster creativity in exploring alternatives. Proximity and location are among the easiest parameters of a mind map to manipulate. The ability to move objects around at will and to quickly reverse undesired changes encourages tinkering with alternative clusters of ideas, opening the door to identifying new strategies. This freedom to explore is especially valuable when I initially review potential client assignments prior to the start of a semester. It is not uncommon for me to have multiple seemingly "final" versions, only to find upon further tinkering with the map that other possibilities will better optimize achievement of my goals.

115. This is usually the approach I take for complex matters, like negotiation of founder agreements.

6. *Using Micro- and Macro-Level Viewpoints to Analyze Information*

One of the primary benefits of modern mind mapping is its flexibility as a medium to toggle between broad overviews and more narrow areas of focus. As previously discussed, mind mapping software applications permit easy zooming to focus your eye on a relevant section of a map, as well as on/off switches to collapse or expand various levels of the hierarchy. These capabilities dramatically expand the usefulness of mind mapping by making it easier to review, understand, and recall the information.

By reviewing a map at a micro-level, each student's workload can be evaluated in isolation to confirm that general and individualized learning objectives are being met. This focused viewpoint facilitates decisionmaking that can help each student achieve general educational objectives, such as exposure to a variety of different clients, legal issues, and legal skills, as well as particularized educational and professional objectives. As discussed above, some objectives may be highly specific to a single student, and clinical education is well suited to helping students achieve these objectives.¹¹⁶ In the E-Clinic, for example, matters with specific characteristics relevant to a student are easily identifiable, whether they be a substantive area of law the student is interested in, or client characteristics relevant to the student's professional aspirations.

By reviewing the map at a macro-level, the individualized decisions described above can now be tested against a number of other, more generally applicable priorities, notably to ensure (i) a general level of equity among all student participants in terms of workload and achievement of objectives, (ii) allocations that are likely to result in positive client outcomes, and (iii) allocations that serve the clinic's relevant constituencies.¹¹⁷ This top-level view can also serve as a useful at-a-glance summary of all client matter assignments for clinic students and staff.

C. *Initial Evaluation of Mind Mapping in an Entrepreneurship Clinic*

After nearly three years, I can easily conclude that mind mapping has proven a tremendous asset that has improved my ability to serve E-Clinic students and clients alike. Mind mapping facilitates student/client matter assignments and is a useful tool for administering the E-Clinic more generally. As Part IV.B illustrates, many of my objectives for the E-Clinic are now embodied in mind maps, and in nearly equal degree, the resulting mind maps are embedded in my mind. My own neural network expects and relies on this external network of ideas to help it operate most effectively. For me, there is no going back.

Notwithstanding this, it is challenging to formally evaluate the extent of mind mapping's value. The gradual process of increasing use and reliance on mind mapping for these purposes has been fluid and inexact, driven primarily by the same

116. See *supra* Part II.B, p. 123–24.

117. For example, I would consider whether each assigned student has requisite knowledge or training to handle the matters, and whether we are serving a healthy mix of clients from different Nebraska communities in order to accomplish objectives (ii) and (iii), respectively.

experimentation and creativity that use of mind mapping fosters. As a result, data have not been gathered in any intentional way to demonstrate results pre- and post-mind map. Since the variables that my mind map collects and helps to analyze fluctuate substantially from decision-point to decision-point, it is difficult to say with confidence whether positive results are based on the use of mind mapping itself, or simply a more successful mix of students, clients, or both.¹¹⁸ Frankly, since the E-Clinic is still relatively new and I continue to experiment with new and different ways of operating and teaching, maintaining consistency in other material variables would be undesirable.

Even without any formalized, data-driven evaluation, I have identified several positive results from implementing mind mapping in the E-Clinic, as well as some avenues for continued improvement.

1. Improved Satisfaction of Objectives

Fundamentally, mind mapping provides mental scaffolding for a clinic director to consider, evaluate, and contextualize relevant information to facilitate better decisionmaking. Mind mapping provides me with a meaningful opportunity to weigh and consider alternative options deliberately and intentionally, leading to increased confidence in the ultimate decisions.

At a glance, I can confirm whether a student will have the opportunity to satisfy each of the important learning objectives I described in Part II; notably, those identified by Penland as being most relevant to deal lawyers and general practitioners, and the skills Kosuri labels “foundational” and “optimal.”¹¹⁹ Depending on the client pool in a given semester, I can ensure that each student has at least one project in each of the major areas of substantive law and practical skills most relevant to transactional practice. I can also consider whether a given student has specific skills, interests, or goals that should affect client assignments, either to achieve specific student learning outcomes, or to best serve a client with advanced legal needs.

In addition, I use these maps as a part of my teaching. In the first week of the semester, I provide students a map showing their specific assignments. I use the maps in discussions with individual students to identify gaps between current assignments and student learning goals, and we work together to address them. The map serves as a consistent reminder to students that these decisions were made with intention and care, facilitating student buy-in.¹²⁰

More work can be done to better connect the information presented by a mind map to actual attainment of the desired objectives. Specifically, clinical faculty would be well served to identify, with particularity, the specific learning outcomes their

118. And since only eight students participate each semester, aggregation of student-generated survey responses in a given semester would potentially be subject to major shifts based on the quirks of one or two students.

119. See *supra* text accompanying notes 10–18.

120. This view is purely anecdotal and not confirmed by data; however, future student surveys could evaluate whether this is indeed the case.

students should achieve while taking part in a clinic, and connect those outcomes with modes of assessment to evaluate whether those outcomes are satisfied. At an institutional level, these efforts are of ever-increasing relevance given changes to American Bar Association standards regarding identification of, and assessment based on, learning outcomes.¹²¹ In my case, much of the initial ground work for these efforts has already been achieved through my use of mind mapping, which has required me to identify (i) key learning outcomes affected by client selection and assignment, (ii) characteristics of clients and their legal matters most likely to enable my students to meet those outcomes, and (iii) methods to assign students, whether individually or in teams, to maximize the likelihood of success for both the student and client.

2. *A Reinforcing Feedback Loop*

Another way to track success is to consider how I have changed my teaching and administration of the E-Clinic as a result of mind mapping. The biggest impact is that the “mental real estate” mind mapping has freed makes me much more eager to seek targeted, relevant information from students and clients to inform decisionmaking. During early semesters, my knowledge about a prospective client was sometimes limited to the four corners of an intake questionnaire, which by the time the client was actually on board, contained largely stale information. Today, clinic staff periodically check-in with prospective clients to identify changing circumstances, update information, and broadly explore their anticipated legal needs. These contacts not only foster positive clinic/client relationships, but they provide me with more accurate, timely information about a client’s circumstances, which is particularly important given the ever-changing nature of early stage businesses.

Regarding students, I have made efforts to gain a better understanding of all students prior to their involvement in the E-Clinic. In the past, I would have basic information based on a cover letter, resume, and transcript. But as anyone who has hired someone knows, these materials do not provide a complete picture of a person; therefore, any decisions I might make to tailor a student’s E-Clinic experience based on that information would likely be incomplete or uninformed. Armed with a mechanism to better tailor client assignments to achieve individualized student goals, I now seek to learn more about the students before they participate in the E-Clinic. I obtain information through written surveys about student priorities

121. See generally SECTION OF LEGAL EDUC. & ADMISSIONS TO THE BAR, AM. BAR ASS’N, MANAGING DIRECTOR’S GUIDANCE MEMO, STANDARDS 301, 302, 314 AND 315 (2015). Specifically, Standard 302 requires that all accredited law schools shall “establish learning outcomes” that include, at a minimum, competency in the following:

(a) [k]nowledge and understanding of substantive and procedural law; (b) [l]egal analysis and reasoning, legal research, problem-solving, and written and oral communication in the legal context; (c) [e]xercise of proper professional and ethical responsibilities to clients and the legal system; and (d) [o]ther professional skills needed for competent and ethical participation as a member of the legal profession.

Id. at 1.

regarding various skills and legal issues, anticipated professional goals, and geographic expectations for the short and long term after graduation. With this information, I am in a better position to make tailored client assignments and student pairings for team projects to maximize the likelihood that specific student goals can be attained. In future semesters, I hope to broaden this inquiry with student interviews so I can get to know each student even better.

Perhaps the most succinct way to describe mind mapping's impact on my teaching and administration is as a feedback loop, whereby a system's output eventually leads to influencing that same system's input.¹²² Here, the loop went something like this: (i) a mind map initially served to reflect existing information; (ii) that map was used to make student/client assignments; (iii) imperfections in those assignments led to seeking better information, which was then fed into a future mind map; and (iv) new maps containing better information resulted in better decisions. The catalyst was the mapping capability, which creates a construct for better management of information, creating capacity for managing more and more information over time. Better information has led to better outcomes, but imperfect outcomes continue to incentivize obtaining even better information.¹²³

3. *Additional Applications in Clinical Legal Education*

My use of mind mapping has been limited to teaching and administering a live-client transactional clinic. However, there may be other meaningful applications for mind mapping in clinical legal education.

Recent scholarship highlights some helpful distinctions among clinical pedagogies that are instructive. In the transactional clinic context, Kosuri distinguishes among models of clinics on the basis of their relative impact, using the term "general services clinics" to refer to those in-house, faculty-supervised, live-client clinics that (i) handle any transactional matter that "meets basic requirements (e.g. that the client has limited financial means and the client work is transactional in nature)"; (ii) "focus . . . on matters that students can accomplish within a semester's time with minimal strategic or analytical thought"; and (iii) serve "clients [who] do not share any connection to each other."¹²⁴

122. See, e.g., Thomas Goetz, *Harnessing the Power of Feedback Loops*, WIRED (June 19, 2011, 9:45 AM), http://www.wired.com/2011/06/ff_feedbackloop.

123. Based on exit surveys and observations of student attorneys for over three years, it is clear to me that student outcomes have improved over time. To me, this is evidence that better student/client pairings are being made. However, this is an area where better data gathering would be instructive, particularly through pre- and post-semester self-assessments about student knowledge and comfort level regarding each of the major substantive law and skill outcomes described *supra* Part II.B.

124. Kosuri, *supra* note 7, at 28. Kosuri's definition also includes as a characteristic that the faculty member acts as primary counsel in matters and gives directed tasks to the students in the course of servicing the client. My experience suggests that this does not need to be the case in a clinic that is oriented as a general services firm. For example, my approach is less directive and more structural in defining the process by which the students interview and learn about the client, evaluate the client's needs, and ascertain which, if any, are appropriate and feasible for the clinic to serve, and then proceed to chart a course for meeting those needs. As the director, I am required by the Nebraska Rules of Professional

Kosuri contrasts these types of clinics with more impactful community economic development (CED) clinics, which focus on communities and building institutions to serve those communities well.¹²⁵ These projects tend to be more long term in nature, and selection of clients is necessarily driven by the scope of social impact to be achieved, rather than emphasis on particular skills or legal issue areas on which students will focus.¹²⁶

Anna Carpenter also proposes a typology for clinical education that focuses on the type of work a clinic undertakes and the time horizon necessary to complete it.¹²⁷ Clinics that take on short-term matters are characterized by work with individual clients, use of limited scope representations to ensure that students can complete projects during an academic term, and full assumption by students of the role of the lawyer, complete with maximum ownership of the legal work undertaken.¹²⁸ Of major relevance, however, is the control exacted by clinical faculty on the clinic experience based on such matters. Carpenter describes these matters as follows:

Short-term matters also have the benefit of a relative degree of predictability, which makes them manageable for a clinical supervisor. Here, clinicians can (reasonably) predict the length of a case; the universe of possible factual, legal, and ethical issues; and, often, the clients the clinic will serve. This makes it possible for the clinician to predict and plan in advance the student's learning experiences, to schedule seminars and training to coincide with key case-related events, to give basic training in substantive law and procedure, and to monitor a number of matters at one time while still leaving time for seminar planning and teaching.¹²⁹

Carpenter contrasts short-term matters with long-term matters (complex or impact litigation) and projects that solve legal problems through strategies and tactics other than litigation.¹³⁰

Mind mapping is well suited for "general services clinics" that provide assistance on short-term matters. This is particularly true when clinical faculty have wide discretion in selecting clients and specifying the scope of representation, like I enjoy in the E-Clinic. Decisions about whom to serve and how to serve them can fit into a broader scheme of creating the most impactful experience possible for clinic students. Changes in the mix of client matters or student interests create opportunities for modifying such scheme for synergistic benefits.

Conduct to be primary counsel on these matters as a prerequisite for my students to be authorized to practice law, but from the student perspective my role is much less directive and more supervisory than Kosuri's definition suggests.

125. *Id.* at 29.

126. *Id.*

127. Carpenter, *supra* note 28, at 44–46.

128. *Id.* at 44–45.

129. *Id.* at 47–48.

130. *Id.* at 48–52.

Although I have focused on transactional clinics in this article, I believe mind mapping would be similarly valuable for other types of clinics. General services clinics that work on short-term matters in other areas of the law—such as landlord/tenant, public benefits, or other litigation matters—would find many of the same benefits that I have observed in a transactional clinic. Mind mapping could also be an excellent tool in CED or other long-term project clinics to identify and assign component parts of a multistaged project; to highlight key skills, issue areas, or other relevant characteristics of a project; or to analyze the interplay of client needs and student learning objectives to make thoughtful, impactful allocations for an academic term. However, the reduced workload control clinical faculty can have in these types of clinics may reduce the value of mind mapping for this specific purpose.

A second inquiry is whether mind mapping could be used to perform other functions that are common to clinical legal education, whether focused on transactional matters or otherwise. As noted in Part II above, mind mapping is used in numerous disciplines to perform many different functions for which creativity is needed.¹³¹ Although little has been written connecting mind mapping to clinical legal education, the following applications should be further explored:

- *Legal Issue Analysis*: Coaching clinic students to meaningfully analyze legal issues is a key component of clinical teaching. Mind mapping is one of many visual tools that can be used to help students understand a legal doctrine and apply it to current circumstances.¹³² A visual method like mind mapping may be more appealing to millennials than outline-based methods.¹³³
- *Seminar Teaching*: Mind mapping is used in the classroom to brief cases and otherwise organize class discussions.¹³⁴ In lieu of traditional visual aids like PowerPoint, the interactivity of mind mapping creates additional opportunities to improve class discussions.
- *Project Management*: Clinic students frequently have to balance numerous tasks, including multiple client matters and other course requirements. Mind mapping can help students visualize their workload, organize their legal research, and create action plans.¹³⁵

131. See *supra* text accompanying notes 37–46.

132. See Booth, *supra* note 44, at 41.

133. Kaplan & Darvil, *supra* note 37, at 179.

134. Lee, *supra* note 37, at 284–86; *Case Study: Professor Jerry Kang, UCLA*, *supra* note 37.

135. Guyer, *supra* note 37, at 178; Kaplan & Darvil, *supra* note 37, at 179; Leloudis, *supra* note 44, at 20–21; Linz, *supra* note 37, at 73.

- *Reflection*: A key component of clinical education is reflection.¹³⁶ One goal of reflection is to provide students with a “self-improvement algorithm” that will help them better exercise judgment when they enter the legal profession.¹³⁷ Mind mapping is an effective tool for brainstorming ideas, analyzing information from multiple vantage points, and otherwise engaging one’s whole brain to evaluate a set of circumstances.¹³⁸

These examples barely scratch the surface of possible applications of mind mapping techniques in clinical legal education. By adding a dash of innovation into their teaching methods, clinical faculty model creative behavior for their students, setting a meaningful example of how to approach their professional lives with ingenuity and inventiveness.

V. CONCLUSION

Steve Jobs claimed that creativity is as basic as connecting things.¹³⁹ If this is the case, digital mind mapping represents an approachable inroad for clinical law faculty to tap into their own creativity through the simplicity of connection. This article connects the creativity-inducing tool of mind mapping with the important pedagogical and administrative task of matching clients and legal matters to students in a transactional, live-client clinic. This connection not only improves decisionmaking in the short term, it also leads to improved decisionmaking over the long term by fostering experimentation and iteration. Although this article focused narrowly on circumstances arising in transactional clinics, my hope is that legal educators of all persuasions are drawn to the power and simplicity of mind mapping, and explore for themselves how this tool can be applied to infuse a fresh dose of creativity into their own teaching.

136. See generally Timothy Casey, *Reflective Practice in Legal Education: The Stages of Reflection*, 20 CLINICAL L. REV. 317 (2014); Laurie Morin & Louise Howells, *The Reflective Judgment Project*, 9 CLINICAL L. REV. 623 (2003); J.P. Ogilvy, *The Use of Journals in Legal Education: A Tool for Reflection*, 3 CLINICAL L. REV. 55 (1996).

137. Casey, *supra* note 136, at 321.

138. See Weinstein & Morton, *supra* note 77, at 840, for more about whole-brain thinking and its applicability to legal education.

139. Wolf, *supra* note 1.

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